What is claimed is:

Claims

1. A method comprising the steps of:

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determining a signature metric for a portion of a first image;

searching a second image for at least one relative match of the signature metric, yielding one or more candidate regions;

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in a pixel domain, searching at least one of the one or more candidate regions for the portion of the first image to obtain a motion vector for the portion of the first image.

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2. The method of claim 1, wherein the portion of the first image is in signature space.

20   3. The method of claim 1, wherein the step of determining the signature metric comprises determining a vertical signature metric and a horizontal signature metric.

25   4. The method of claim 3, wherein the vertical signature metric comprises vertically projected image data.

5. The method of claim 3, wherein the horizontal signature metric comprises
30   horizontally projected image data.

6. The method of claim 1, wherein the step of searching the second image comprises searching less than all of the second image.

7. The method of claim 1, wherein the step of searching in the pixel domain further comprises the step of searching a region defined by a zeroth motion vector, yielding an additional motion vector.

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8. The method of claim 7, further comprising the step of comparing the motion vector and the additional motion vector, yielding a final motion vector.

10   9. A method comprising the steps of:

employing a portion of a signature space to identify a candidate region in an image space of a possible relative match with a current image; and

15   searching a part of the image space based at least in part on a portion of the candidate region to obtain a motion vector for at least a part of the current image.

10. The method of claim 9, further comprising the step of determining a signature
20   metric.

11. The method of claim 10, wherein the step of determining the signature metric comprises determining a vertical signature metric and a horizontal signature
25   metric.

12. The method of claim 11, wherein the vertical signature metric comprises vertically projected image data.

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13. The method of claim 11, wherein the horizontal signature metric comprises horizontally projected image data.

14. The method of claim 9, wherein the step of searching the part of the image space further comprises the step of searching a region defined by a zeroth motion vector, yielding an additional motion vector.

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15. The method of claim 14, further comprising the step of comparing the motion vector and the additional motion vector, yielding a final motion vector.

10   16. A method comprising the steps of:

comparing a signature metric for a portion of a first image to projected data in a search window of a second image, yielding at least one coarse motion vector;

15   on a pixel basis, searching at least one region related to the at least one coarse motion vector for image data, yielding a fine motion vector.

17. The method of claim 16, further comprising the step of determining a
20   signature metric that comprises a vertical signature metric and a horizontal signature metric.

18. The method of claim 16, wherein the search window is smaller than all of the
25   second image.

19. The method of claim 17, wherein the step of searching further comprises the step of searching a region defined by a zeroth motion vector, yielding a first
30   motion vector.

20. The method of claim 18, wherein the step of searching the at least one region yields a second motion vector, and the first motion vector and the second motion vector are compared to find a better motion vector, yielding a final motion vector.

21. An apparatus comprising:

a projection data comparator, arranged and constructed to compare a signature metric for a portion of a first image to projected data in a search window of a second image, yielding at least one coarse motion vector; and

a pixel domain comparator, arranged and constructed to, on a pixel basis, search at least one region related to the at least one coarse motion vector for image data, yielding a fine motion vector.

22. The apparatus of claim 21, further comprising a signature metric determiner that provides a vertical signature metric and a horizontal signature metric.

23. The apparatus of claim 21, wherein the pixel domain comparator is further arranged and constructed to yield a first motion vector and a second motion vector, and to compare the first motion vector and the second motion vector to find a better motion vector, yielding a final motion vector.